

# **UNR Dixie Valley Geothermal Wellfield High-Resolution Ambient Noise Seismic Survey**

**BLM Office:** Stillwater Field Office

LLNVC01000

**Lease/Serial/Case File No.:** NVN-094369

**Proposed Action Title/Type:** High-Resolution Ambient Noise Seismic Survey

**Location of Proposed Action:** MDM T. 22 N., R. 35 E., T. 22 N., R. 36 E., T. 23 N., R. 35 E., T. 23 N., R. 36 E., T. 23 N., R. 37 E., T. 24 N., R. 35 E., T. 24 N., R. 36 E., T. 24 N., R. 37 E., T. 24 N., R. 38 E., and T. 25 N., R. 37 E.

**Description of Proposed Action:** The University of Nevada Reno (UNR) is proposing to conduct a high-resolution ambient noise seismic survey (ANS) in the Dixie Valley Geothermal Wellfield (DVGW). The proposed project area covers approximately 170 square kilometers in northern Dixie Valley, Churchill County, Nevada. This high-resolution ANS would compliment an earlier low-resolution ANS conducted by AltaRock Energy Inc. in 2010. The proposed ANS would utilize three types of seismic sensors - "texans", short-period, and broadband - deployed along 12 survey lines covering the project area. The "texan" and short-period sensors would be deployed along the survey lines while the broadband sensors would be deployed discrete locations. Each survey line would consist of approximately 265 "texan" sensors - spaced at approximately 40 meters and 20 short-period sensors - spaced at approximately 500 meters per line. The "texan" sensors would be laid on the surface and collect data for a period of 6-12 days before demobilization. The short-period sensors would be buried to a depth of approximately 1 & 1/2 feet and remain for a period of 30 days. A total of 28 broadband sensors would be buried placed on cement piers in holes approximately 2 feet wide by 3 feet deep dug by hand or with a motorized hand-held auger. The sensors would then be covered and the holes back filled with a solar panel (approximately 4 feet high) and marine style battery in a plastic container for remaining on the surface to provide power. The broadband sensors would remain in the ground for 60 days prior to removal. At the completion of the survey all equipment would be removed and the land surface would be restored to the pre-existing condition to the extent feasible using hand tools. The cement piers at the broadband sites would be buried in place. Personnel would access the project area sites using an all-terrain vehicle (quad) and/or standard sized pickup(s) - F-150 or similar - on existing roads or via overland travel. Vibrations for the sensor arrays would be generated by 10 pound sledge hammer strikes at selected sites and dropping a 40 kilogram weight off the back of a pickup truck at locations along the existing roads in the project area.

## **Land Use Plan Conformance**

### **Land Use Plan Name:**

Carson City Field Office Consolidated Resource Management Plan

### **Date Approved/Amended:**

May 9, 2001

**The proposed action is in conformance with the applicable LUP because it is specifically provided for in the following LUP decision(s):** MIN-1, Desired Outcomes, 1: Encourage

development of energy and mineral resources in a timely manner to meet national, regional, and local needs consistent with the objectives for other public land uses.

MIN-5, Standard Operating Procedures: Leaseable Minerals, 5: Oil, gas, and geothermal exploration and production upon BLM land are conducted through leases with the Bureau and are subject to terms and stipulations to comply with all applicable federal and state laws pertaining to various considerations for sanitation, water quality, wildlife, safety, and reclamation. Stipulations may be site specific and are derived from the environmental analysis process.

### **Compliance with NEPA:**

The Proposed Action is categorically excluded from further documentation under the National Environmental Policy Act (NEPA) in accordance with 516 DM 2, Appendix 1, or 516 DM 11.9, *B. 6. "Approval of Notices of Intent to conduct geophysical exploration of oil, gas, or geothermal, pursuant to 43 CFR 3150 or 3250, when no temporary or new road construction is proposed."*

This categorical exclusion is appropriate in this situation because there are no extraordinary circumstances potentially having effects that may significantly affect the environment. The proposed action has been reviewed, and none of the extraordinary circumstances described in 516 DM 2 apply.

## Categorical Exclusion –Screening for Extraordinary Circumstances

CX Number	DOI-BLM-NV-C010-2015-0044-CX
Date	October 1, 2015
Lease/Case File/Serial Number:	NVN-094369
Regulatory Authority (CFR or Law):	43 CFR §3250

**IMPORTANT:** Appropriate staff should review the circumstances listed below, comment and initial for concurrence. Rationale supporting the concurrence should be included where appropriate.

### Impacts on Public Health and Safety

1. Does the proposed action have significant impacts on public health and safety?		
YES	NO	REVIEWER/TITLE
		Chelsy Simerson, Rangeland Management Specialist
	10/15/2015	Ken Vicencio, Range Tech
	10/14/15	Linda Appel, Rangeland Management Specialist
	10/19/15	Dave Schroeder, Environmental Protection Specialist

**Rationale:**

### Impacts on Natural Resources or Unique Geographic Characteristics

2. Have significant impacts on such natural resources and unique geographic characteristics as historic or cultural resources; park, recreation or refuge lands; wilderness or wilderness study areas; wild or scenic rivers; national natural landmarks; sole or principal drinking water aquifers; prime farmlands; wetlands (Executive Order 11990); floodplains (Executive Order 11988); national monuments; migratory birds (Executive Order 13186); and other ecologically significant or critical areas?		
YES	NO	REVIEWER/TITLE
		Joel Hartmann, Geologist
	10/13/15	Ken Depaoli, Geologist
	10/14/15	Jason Wright, Archaeologist
		Kristin Bowen, Archaeologist
	10/13/15	Dan Westermeyer, Outdoor Recreation Planner
	10/14/15	Michelle Stropky, Hydrologist
	10/15/15	Chris Kula, Wildlife Biologist
		Chelsy Simerson, Rangeland Management Specialist
	10/14/15	Linda Appel, Rangeland Management Specialist
	10/12/2015	Ken Vicencio, Range Tech

**Rationale:**

### Level of Controversy

3. Have highly controversial environmental effects or involve unresolved conflicts concerning alternative uses of available resources [NEPA Section 102(2)(E)]?		
YES	NO	REVIEWER/TITLE
	10/17/15	Angelica Rose, Planning & Environmental Coordinator
	10/17/15	Project Lead

**Rationale:**

### Highly Uncertain or Unique or Unknown Environmental Risks

4. Have highly uncertain and potentially significant environmental effects or involve unique or unknown environmental risks?		
YES	NO	REVIEWER/TITLE

	ADL 10/17/15	Angelica Rose, Planning & Environmental Coordinator.
	PS 10/19/15	Project Lead

**Rationale:**

### Precedent Setting

5. Establish a precedent for future action, or represent a decision in principle about future actions, with potentially significant environmental effects?		
YES	NO	REVIEWER/TITLE
	ADL 10/17/15	Angelica Rose, Planning & Environmental Coordinator.
	PS 10/19/15	Project Lead

**Rationale:**

### Cumulatively Significant Effects

6. Have a direct relationship to other actions with individually insignificant, but cumulatively significant, environmental effects?		
YES	NO	REVIEWER/TITLE
	ADL 10/13/15	Angelica Rose, Planning & Environmental Coordinator.
	PS 10/19/15	Project Lead

**Rationale:**

### Impacts on Cultural Properties

7. Have significant impacts on properties listed or eligible for listing, on the National Register of Historic Places as determined by either the Bureau or office?		
YES	NO	REVIEWER/TITLE
	JRW 10/14/15	Jason Wright, Archaeologist
		Kristin Bowen, Archaeologist

**Rationale:**

### Impacts on Federally Listed Species or Critical Habitat

8. Have significant impacts on species listed, or proposed to be listed, on the List of Endangered or Threatened Species, or have significant impacts on designated Critical Habitat for these species?		
YES	NO	REVIEWER/TITLE
	CK 10/15/15	Chris Kula, Wildlife Biologist

**Rationale:**

### Compliance with Laws

9. Violate a Federal law, or a State, local, or tribal law or requirement imposed for the protection of the environment?		
YES	NO	REVIEWER/TITLE
	ADL 10/13/15	Angelica Rose, Planning & Environmental Coordinator

**Rationale:**

### Environmental Justice

10. Have a disproportionately high and adverse effect on low income or minority populations (Executive Order 12898)?		
YES	NO	REVIEWER/TITLE
	ADL 10/17/15	Angelica Rose, Planning & Environmental Coordinator

**Rationale:**

## Sacred Sites

11. Limit access to and ceremonial use of Indian sacred sites on Federal lands by Indian religious practitioners, or significantly adversely affect the physical integrity of such sacred sites (Executive Order 13007)?		
YES	NO	REVIEWER/TITLE
	<i>JW 10/14/15</i>	Jason Wright, Archaeologist
		Kristin Bowen, Archaeologist

Rationale:

## Noxious and Non-Native Invasive Species

12. Contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area, or actions that may promote the introduction, growth, or expansion of the range of such species (Federal Noxious Weed Control Act and Executive Order 13112)?		
YES	NO	REVIEWER/TITLE
	<i>KV 10/13/2015</i>	Ken Vicencio, Range Tech

Rationale:

## Approval and Contact Information

<i>Teresa J. Knutson</i>	<i>10/21/2015</i>
Teresa J. Knutson Field Manager Stillwater Field Office	Date

## Contact Person

*Dave Schroeder, Environmental Protection Specialist, (775) 885-6119, dlschroe@blm.gov*